High-income Canadians

Brian Murphy, Paul Roberts and Michael Wolfson

Media interest in those with very high incomes seems never-ending. However, this interest goes beyond celebrity watching. Canada has a progressive system of taxes and transfers, which means that high-income recipients contribute a disproportionate portion of total taxes, which in turn help finance a range of government activities including transfer payments to those lower in the income distribution. The status of the high-income population is thus important to the financing of government activities. Changes to the income tax system may affect their behaviour. For example, increasing tax rates have been tied to issues such as the brain drain.

Considerable effort has been devoted over time and across countries to measure and characterize those with low incomes, but not those with high incomes. One reason is that only a few data sources (income tax data in particular) can support the study of this relatively small population. This study uses tax returns and survey data to explore trends in the number and characteristics of high-income Canadians, as well as their wealth and the effective income tax rates they face. It is intended to help inform current debate on topics such as tax fairness and income inequality.

There is no agreed-upon definition of high income, either in terms of absolute dollar thresholds or as a fixed percentage of the population. While defining poverty exhibits similar difficulties, numerous studies have discussed concepts such as 'deprivation' and 'straitened circumstances,' providing some general support for selecting a threshold below which one is considered to be in low income. No corresponding literature exists for defining high income.

Survey data tend to have very small sample sizes at the upper tail of the income distribution, and also tend to suffer from a higher level of underreporting. The T1 Family File (T1FF) overcomes these problems. The T1FF has had very good coverage, even of those with low or zero income, since the advent of refundable income tax credits—for children in 1978 and for everyone (the GST credit) in 1992. Additionally, the T1FF systematically links spouses and dependent children into families as appropriate (Patenaude and Clark 2000).[1]

Where to draw the high-income line?

A number of thresholds have been used for defining high income. Just as with low income, these thresholds can be absolute dollar figures or expressed in terms of relative portions of the population. In each case, the aim is to describe the upper tail of an income distribution and separate those with high income from those without (Table 1).

Absolute nominal thresholds

Thresholds defined in nominal dollar terms are the simplest. Absolute thresholds refer to a particular dollar amount—for example, $100,000. Those with incomes higher than a given figure are considered to have high income. However, such thresholds suffer from changing monetary conditions, most particularly the effect of inflation. What might have seemed a sufficiently high threshold amount one or two decades ago may not be viewed the same way today, to the extent that some groups' income levels have risen or earnings have been eroded by inflation.

Examples of commonly applied absolute nominal thresholds include $250,000, the highest income grouping used for many years by the Canada Revenue Agency (CRA);[2] $150,000, used in Statistics Canada's census tables; $100,000, used by the province of Ontario in their 'sunshine list' made available under the *Public Sector Salary Disclosure Act* (Campbell 1996); and the threshold at which the top federal tax rate begins—$113,804 in 2004.[3]

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Relative thresholds

While absolute nominal thresholds are easy to understand, they suffer from changing 'real' values in the face of inflation. One alternative, as in the case of income tax bracket thresholds, is to index to the CPI so that their value is maintained. However, as with the longstanding discussion of relative versus absolute poverty or low-income lines, a parallel argument exists for defining high income in a relative manner. According to this argument, when the income of an average worker rises (because of real per capita economic growth, not just inflation), the threshold for high income ought to rise in the same proportion. A relative threshold divides an income distribution using a quantile cut-point to define those with higher incomes.[4]

Examples of relative threshold cut-offs include individuals or families at or above three times the median income (Murphy, Finnie and Wolfson 1994), the top third (Morissette and Ostrovsky 2005), the top fifth and top tenth (Morissette and Zhang 2006), the top 5% (Frenette, Green and Picot 2004; Atkinson 2003), and the top 1% (Rashid 1994). Each of these thresholds was used to divide the total 2004 income distribution for individuals and families into those with high incomes and those without.[5] These thresholds convey the wide variation in what may be considered high income. For individuals in 2004, it could be $37,000 (top third of the income distribution) or $250,000 (top 0.6%). In comparison, the top third of families had a high-income threshold of $64,000, while an income of $250,000 would categorize 1.5% of families as high-income.

Table 1 Income thresholds for individuals and families

	Individuals		Families	
	Cut-off	Above cut-off	Cut-off	Above cut-off
Absolute threshold	$	%	$	%
CRA	250,000	0.6	250,000	1.5
Census tables	150,000	1.4	150,000	5.4
Ontario 'sunshine list'	100,000	3.7	100,000	15.3
Top federal tax rate	113,804	2.4	113,804	11.3
Relative threshold				
Three times median	75,000	8.1	129,000	8.2
Top third	37,000	33.3	64,000	33.3
Top 20%	50,000	20.0	88,000	20.0
Top 10%	69,000	10.0	119,000	10.0
Top 5%	89,000	5.0	154,000	5.0
Top 1%	181,000	1.0	305,000	1.0

Source: Statistics Canada, T1 Family File, 2004

Not surprisingly, different thresholds produce varying pictures of the high-income category. Given the arbitrariness of any specific choice, the analysis uses a range of thresholds. However, the predominant focus is on relative thresholds, and generally those involving the top 10% of the population or less.

The income parade

Jan Pen, a Dutch economist, uses the image of a parade of dwarfs (and a few giants) to illustrate the general shape of income distribution (Pen 1971, 48). Everyone in the country lines up in a parade in order of income. People with average income have the average height, and those with more or less than the average have their statures magically stretched or shrunk in proportion. The parade is timed to pass in front of a reviewing stand over a period of exactly one hour.

A Canadian with the average income in 2004 would not pass the reviewing stand until 40 minutes into the one-hour parade. At about the 54-minute mark, individuals would be about twice the average height (in the 90th percentile). At 57 minutes, those passing by would be two and a half times the average (95th percentile), and only two and a half minutes later they would be 5 times the average (99th percentile). With less than 4 seconds remaining in the parade, the passers by (top 0.1%) would be about 19 times the average height. The last fraction of a second would be taken up by giants at over 165 times the average height (top 0.01%).

Then and now

On the one hand, the cut points up to and including the 80th percentile for individuals, and up to the median for families have been generally stable for over two decades (Table 2). On the other hand, the top 1% and smaller groups experienced major increases, much more so from 1992 to 2004 than in the previous decade.

Table 2 Income thresholds

	Individuals			Families		
	1982	1992	2004	1982	1992	2004
			2004 $ ('000)			
Bottom 1%	0	0	0	0	1	0
Bottom 5%	0	2	1	3	7	7
10%	2	5	5	9	11	11
20%	8	10	10	17	16	17
25%	11	12	12	21	20	21
40%	19	18	19	33	31	33
50%	25	23	25	42	39	43
60%	31	30	31	51	49	55
75%	44	42	44	69	69	77
80%	49	47	50	76	77	88
90%	64	63	69	99	102	119
Top 5%	80	78	89	123	128	154
Top 1%	142	139	181	210	220	305
Top 0.1%	383	402	648	546	597	1,045
Top 0.01%	1,360	1,319	2,833	1,781	1,949	4,301

Source: Statistics Canada, T1 Family File

For example, for individuals, the real-dollar median was essentially flat at $25,000 in 1982 and in 2004, while for families, the 50% threshold fluctuated between $39,000 and $43,000. Some variation did occur in the lower-income quantile cut points, but it was relatively limited. The first decile for individuals, for example, increased in real dollars from approximately $2,000 in 1982 to $5,000 by 2004; the change for families was from $9,000 to $11,000.

By contrast, the cut points for the highest quantiles increased significantly—the top 5% of individuals from $80,000 to $89,000, and the top 0.01% from $1,360,000 to $2,833,000. Similar changes occurred for families. One way of illustrating the magnitude of these constant dollar changes is to relate them to the median (Table 3). The highest percentiles of income earners, whether individuals or families, experienced very high growth. In 1982, the top 5% of individual incomes were 322% of the corresponding median; by 2004 this had increased to 364%. A similar change was observed for families.

These changes were more dramatic for the very highest quantile thresholds. In 1982, the top 0.01% income threshold for individuals was 55 times larger than the median, and by 2004, it was over 115 times larger. For families, the pattern was the same—over 40 times the median in 1982 and 100 times by 2004.

Table 3 Income cut-off as a proportion of median income

	Individuals			Families		
	1982	1992	2004	1982	1992	2004
			%			
25%	44	51	48	50	50	49
50%	100	100	100	100	100	100
75%	177	180	181	163	174	180
90%	258	273	282	235	258	277
Top 5%	322	339	364	294	324	358
Top 1%	572	601	737	501	558	707
Top 0.1%	1,544	1,743	2,644	1,301	1,511	2,425
Top 0.01%	5,475	5,723	11,552	4,243	4,934	9,976

Source: Statistics Canada, T1 Family File

Threshold income values, in constant dollars or as a proportion of the median, can understate the magnitude of changes in the income distribution. For example, the constant dollar threshold for the top 5% of individual filers and top 5% of families increased by 11% and 25% respectively from 1982 to 2004. However, the average income of the top 5% of individuals increased 34% (from $133,000 to $178,000) while that of families jumped 50% (Table 4).

These increases, for the most part, were not paralleled in lower parts of the income spectrum. Individuals with incomes in the bottom four-fifths, for example,

Table 4 Average income

	Individuals			Families		
	1982	1992	2004	1982	1992	2004
			2004 $ ('000)			
Bottom 5%	-90	0	0	-12	2	2
Bottom 10%	-5	2	2	-1	6	6
Bottom 20%	2	5	5	6	10	10
20% to 40%	14	14	14	25	23	25
40% to 60%	25	23	25	42	40	43
60% to 80%	40	37	40	63	62	70
Top 20%	79	77	93	120	124	158
Top 10%	102	100	128	153	160	215
Top 5%	133	130	178	197	206	296
Top 1%	269	268	429	380	404	684
Top 0.1%	852	822	1,641	1,143	1,196	2,493
Top 0.01%	2,903	2,547	5,920	3,658	3,490	8,443

Source: Statistics Canada, T1 Family File

experienced little or no real increase in mean income. Families in the first and fourth quintiles did experience some growth, but those in the second and third quintiles saw little or no change. Increases in average incomes were generally limited to the top quintile and were increasingly marked in the higher reaches of the upper tail.

More people or higher incomes?

Yet another way to display these trends is by the shares accruing to each segment of the income spectrum (Table 5). Whether the bottom 90% or 95%, whether individuals or families, their shares of the income pie decreased, especially between 1992 and 2004. In contrast, the share of the top 5% increased by about one-quarter, the top 1% by about half, and the top 0.1% and 0.01% by nearly 100%. For example, the top 0.01% of individuals had less than 1% of all income in 1982 and in 1992, but by 2004 they had 1.7%.

Table 5 Shares of income

	Individuals			Families		
	1982	1992	2004	1982	1992	2004
			%			
Bottom 5%	-1.0	-0.1	0.0	-0.8	0.2	0.2
5% to 10%	0.1	0.6	0.4	0.6	0.9	0.7
10% to 15%	0.6	1.0	0.9	1.1	1.2	1.1
15% to 20%	1.1	1.4	1.2	1.5	1.5	1.3
20% to 25%	1.5	1.7	1.5	1.9	1.7	1.6
25% to 30%	1.9	2.0	1.8	2.3	2.1	1.9
30% to 35%	2.3	2.3	2.1	2.6	2.4	2.2
35% to 40%	2.8	2.7	2.5	3.0	2.8	2.6
40% to 45%	3.2	3.0	2.8	3.5	3.2	2.9
45% to 50%	3.7	3.5	3.2	3.9	3.6	3.3
50% to 55%	4.2	3.9	3.7	4.3	4.0	3.7
55% to 60%	4.7	4.5	4.2	4.8	4.5	4.2
60% to 65%	5.2	5.0	4.7	5.3	5.0	4.7
65% to 70%	5.9	5.6	5.3	5.8	5.6	5.3
70% to 75%	6.6	6.3	5.9	6.4	6.3	6.0
75% to 80%	7.3	7.1	6.7	7.1	7.0	6.7
80% to 85%	8.2	8.0	7.7	7.9	7.9	7.7
85% to 90%	9.4	9.3	9.0	9.0	9.1	8.9
90% to 95%	11.2	11.2	11.0	10.7	10.9	11.0
Top 5%	21.0	20.9	25.3	19.3	19.9	24.1
Top 1%	8.5	8.6	12.2	7.4	7.8	11.2
Top 0.1%	2.7	2.6	4.7	2.2	2.3	4.1
Top 0.01%	0.9	0.8	1.7	0.7	0.7	1.4

Note: Total income includes capital gains and RRSP withdrawals.
Source: Statistics Canada, T1 Family File

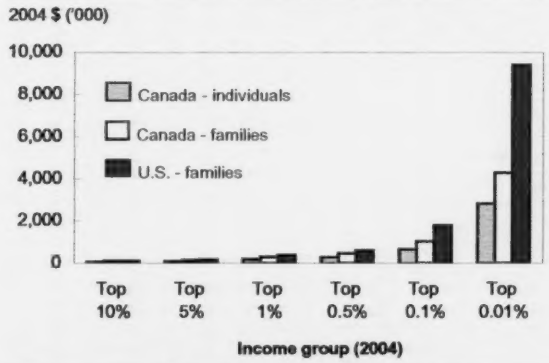
Shares of income as a relative indicator say little about the absolute numbers who have high income. In 1982, the proportion of individuals reporting $100,000 or more stood at 2.6%. This fell to 2.3% in 1992 before climbing to 3.7% in 2004. By 2004, therefore, not only had the share of income accruing to the top 5% of individuals grown, so too had the number of high-income recipients.

The situation was similar for families, except that they saw a steady increase from 1982 to 2004. From 1982 to 1992, the proportion of families receiving $100,000 or more increased from 9.7% to 10.6%. However, from 1992 to 2004, it increased by over 4.5 percentage points to 15%—from less than 1 in 10 families in 1982 to more than 1 in 7 by 2004. The proportions of families reporting at least $500,000 more than doubled.

Richer down south?

Comparisons between Canada and the U.S. are made constantly, for everything from the cost of gasoline and housing to the incomes of physicians and corporate executives. Many of these discussions touch on income. Up to some point in the first two-thirds of the income distribution, Canadian families equaled or even surpassed their American counterparts in the mid-1990s (Wolfson and Murphy 1998). But how do those with high incomes compare? The most striking

Chart A Income threshold disparity most striking at the extreme high end



Note: Purchasing power parity adjusted Canadian dollars.
Sources: Statistics Canada, T1 Family File; U.S.: Piketty and Saez (2003), updated tables and figures

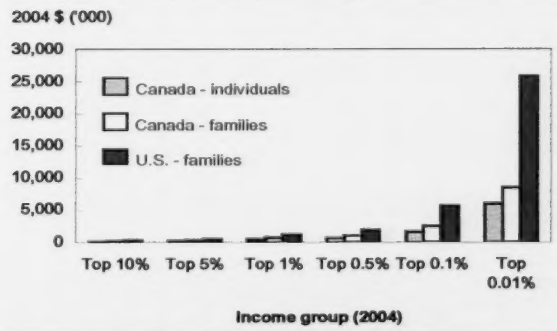
difference is the increasing divergence from the 90th percentile threshold to the top 0.01 percent cut-off (Chart A). In Canada, the top 5% of tax filing families in 2004 had an income of at least $154,000. The 5% threshold for the U.S. was only slightly larger at $165,000 (using purchasing power parity values). However, further up the income distribution, the U.S. and Canadian thresholds diverge considerably. The threshold for the top 0.01% in Canada is approximately $4.3 million, compared with $9.4 million in the U.S.[6]

However, these differences pale when comparing average income: $296,000 for the top 5% of families in Canada in 2004, compared with $416,000 for the U.S., or 40 percent more (Chart B). The differences grow even larger higher up the income distribution. For the top 0.01%, the U.S. average ($25.8 million) was over 3 times the Canadian figure ($8.4 million).[7]

Where the money comes from

From 1946 to 2000, those with the highest incomes saw their main income sources change (Saez and Veall 2003). In the 1940s they relied on a combination of wages, capital (dividends, interest and capital gains) and entrepreneurial sources (self-employed professionals and sole proprietorship owners). For those with the very highest incomes (top 0.1% and 0.01%), however, wages were relatively less important. By the 1990s, wages and salaries had become increasingly more important for all high-income recipients, while capital and entrepreneurial sources had become less important.

Chart B Average income disparity even more pronounced



Note: Purchasing power parity adjusted Canadian dollars.
Sources: Statistics Canada, T1 Family File; U.S.: Piketty and Saez (2003), updated tables and figures

This paper focuses on three main income sources: employment (wages and self-employment), investments (dividends and interest), and capital gains.[8] From 1982 to 2004, non-high-income (bottom 95%) individuals and families increased the proportion of income from employment from 90% to 95%. Investment income became less important, while capital gains remained unimportant.

Meanwhile, the highest-income individuals increased their proportion from employment at a considerably faster rate between 1982 and 2004—the top 1% from 59% to 74%, the top 0.01% from 36% to 62%. These two groups also saw an increase in capital gains income—the top 1% from 8% to 15%, the top 0.01% from 21% to 24%. Correspondingly, both groups experienced decreases in the proportion of investment income—the top 1% from 33% to only 10%, the top 0.01% from 43% to just 14%. Similar patterns occurred for families.

Characteristics of high-income Canadians

The high-income group is quite different from the overall population in socio-demographic terms (Table 6). Of the 1.2 million Canadians who make up the top 5% of income recipients, three-quarters were men, even though men were a minority of individual income recipients in general (48%). This relationship becomes even more skewed the higher one proceeds up the income distribution. About one in nine individuals in the top 0.01% of income recipients were women in 2004. However, women have made substantial gains in their representation in the top 5% of taxfilers, gaining a further 10% share since 1982. These gains did not extend into the top 0.1%, where women's share was stable.

The prevalence of high income peaks in the pre-retirement years. In 2004, individuals aged 45 to 64 represented less than a third of all income recipients (33%), but were the majority in the top 5% (54%). In the top 0.01%, those aged 45 to 64 accounted for 3 in 5 high-income individuals. Individuals aged 25 to 44 years were the second largest group of high-income recipients in the top 5%, but seniors (23%) were second in the top 0.01%.

Almost half of the top 5% of individuals (46%) lived in Ontario, followed distantly by Quebec (18%), Alberta (15%) and British Columbia (13%). However, among the top 0.01% of individuals, Alberta was second at 23%, while Quebec was fourth at just 10%.

Table 6 Individual taxfilers by income group

	Total	Bottom 95%	Top 5%	Top 1%	Top 0.1%	Top 0.01%
			'000			
Total	**23,438**	**22,253**	**1,186**	**237**	**24**	**2**
			%			
Men	48.3	46.8	75.7	78.8	84.3	88.7
Women	51.7	53.2	24.3	21.2	15.7	11.3
Age						
0 to 24	13.0	13.7	0.3	0.3	F	F
25 to 44	36.9	37.0	35.2	28.8	22.0	x
45 to 64	32.9	31.7	54.1	56.3	59.7	59.1
65 and over	17.3	17.6	10.4	14.6	18.1	22.6
Newfoundland and Labrador	1.7	1.7	0.8	0.7	F	F
Prince Edward Island	0.4	0.5	0.2	0.2	F	F
Nova Scotia	3.0	3.0	1.8	1.7	1.2	F
New Brunswick	2.4	2.5	1.2	1.0	F	F
Quebec	24.6	25.0	17.6	17.9	13.2	10.1
Ontario	37.9	37.5	46.2	47.1	50.4	51.1
Manitoba	3.6	3.7	2.3	2.1	1.7	F
Saskatchewan	3.0	3.1	2.0	1.8	1.2	F
Alberta	10.0	9.8	14.7	15.1	18.7	23.3
British Columbia	13.0	13.0	12.6	12.4	12.5	11.5
Single	43.4	44.5	21.8	19.4	17.1	17.3
Married	56.6	55.5	78.2	80.6	82.9	82.7

Source: Statistics Canada, T1 Family File, 2004

Over three-quarters (78%) of all high-income individuals were married, as were 83% of the top 0.01%.

Overall, from 1992 to 2004, each demographic group experienced real increases in income.[9] Some groups, such as individuals aged 45 to 64 and those living in Alberta, experienced much larger changes, with both seeing increases of approximately 60%. Overall, though, many groups experienced very little change—younger individuals (under 45), older individuals (65 and older), and those living in the smaller provinces.

Individual taxfilers, for the most part, saw little overall change from 1992 to 2004. Aggregate total income, for instance, increased by 10% for taxfilers aged 25 to 44. However, the bottom 95% experienced no change whereas those in the top 5% saw an increase of approximately 30%. The increase was even greater in the top 0.01%, where income more than doubled.

Overall, individuals in the highest income ranges experienced the largest changes in aggregate total income from 1992 to 2004. High-income individuals in Alberta more than doubled their aggregate income ratio, while the province's top 0.01% more than quintupled theirs. Other groups in the top 0.01% that experienced large increases included men and women, individuals in Quebec and Ontario, middle-aged individuals (45 to 64), and both single and married persons. No group in the bottom 95% had a ratio larger than 1.6.

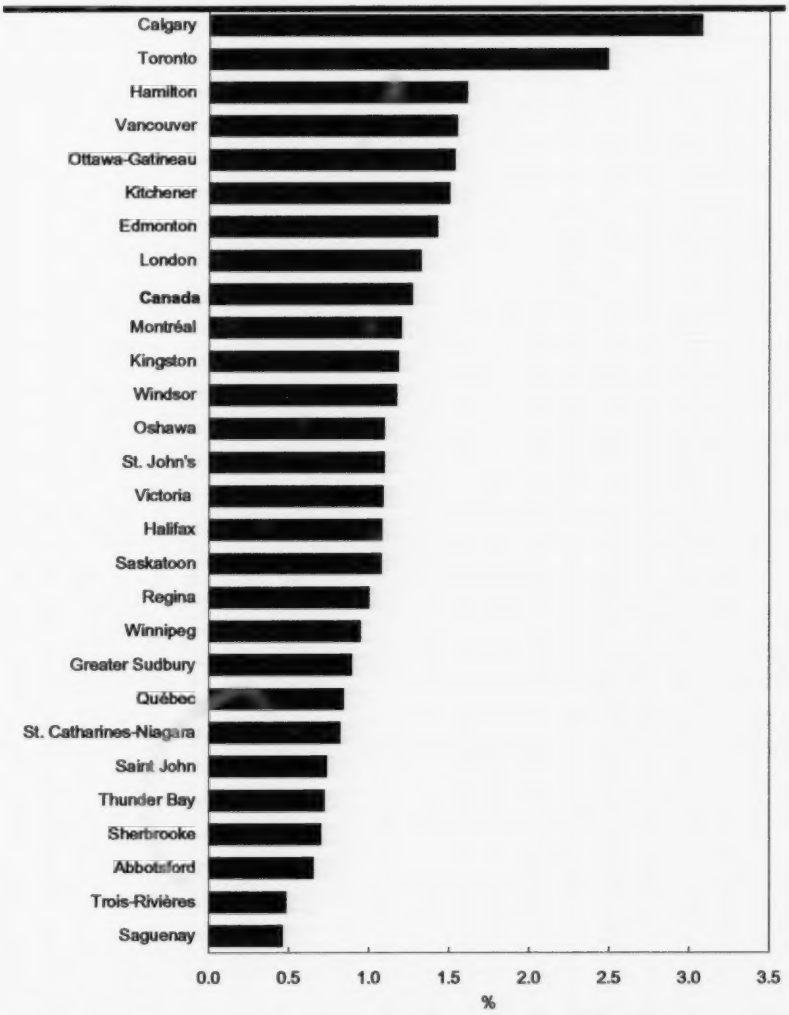
In 2004, 1.3% of families had incomes over $250,000 (Chart C). Of 27 urban centres examined, fully 17 had at least 1.0% of families with such incomes, with Calgary (3.1%) and Toronto (2.5%) standing out. Almost one-third (30.6%) of all families with incomes over $250,000 lived in Toronto, followed more distantly by Montréal (11.4%), Vancouver (8.2%), and Calgary (8.0%) (Chart D). This distribution and the province of these urban centres mirrored the provincial distribution of individuals.

Wealth of high-income Canadians

Economic well-being is not solely a function of income, but also of wealth. In fact, "consumption inequality is probably the better measure of inequality in well-being or economic resources" (Crossley and Pendakur 2006, 147). Given that both income and wealth are used to fund current consumption and together constitute economic well-being, to what degree are high-income Canadians also high-wealth Canadians?

The T1FF contains no information on assets or debts, only the taxfiler's annual income, deductions and tax credits. Statistics Canada's periodic Survey of Financial Security (SFS) measures income and net worth, and was most recently conducted in 2005 with a sample of 9,000 dwellings. The previous study was conducted for 1999 and had 23,000 dwellings. Given the sparseness of high-income families, the 1999 SFS was used to ensure adequate sample size. The sampling techniques used also help ensure a good response from high-income neighbourhoods.[10]

Chart C Eight of 27 census metropolitan areas had a higher than average proportion of families with income over $250,000



Note: Excludes capital gains.
Source: Statistics Canada, T1 Family File, 2004

Average income and net worth

In 1999, the average income for the bottom 80% of families was $38,000 while their average net worth was about five times higher at $192,000. The top 1% had average income of $366,000 and average net worth of $1.9 million, also roughly five times income. It follows that both the average income and average wealth of the top 1% are about 10 times that of the bottom 80%. The implication is that some lower-income families have relatively high net worth (for example the elderly) while some high-income families have relatively low net worth (the young).

Not surprisingly, the importance of housing and vehicular assets declines as income increases. While houses and cars accounted for 31% of average net worth for the 80% of families with the lowest incomes, they accounted for only 16% for the top 1%. These top income families had 61% of their net worth in financial assets compared with 37% for the bottom 80%. Pension assets are far more evenly distributed—21% of net worth for the top 1% of families, 32% for the bottom 80%.

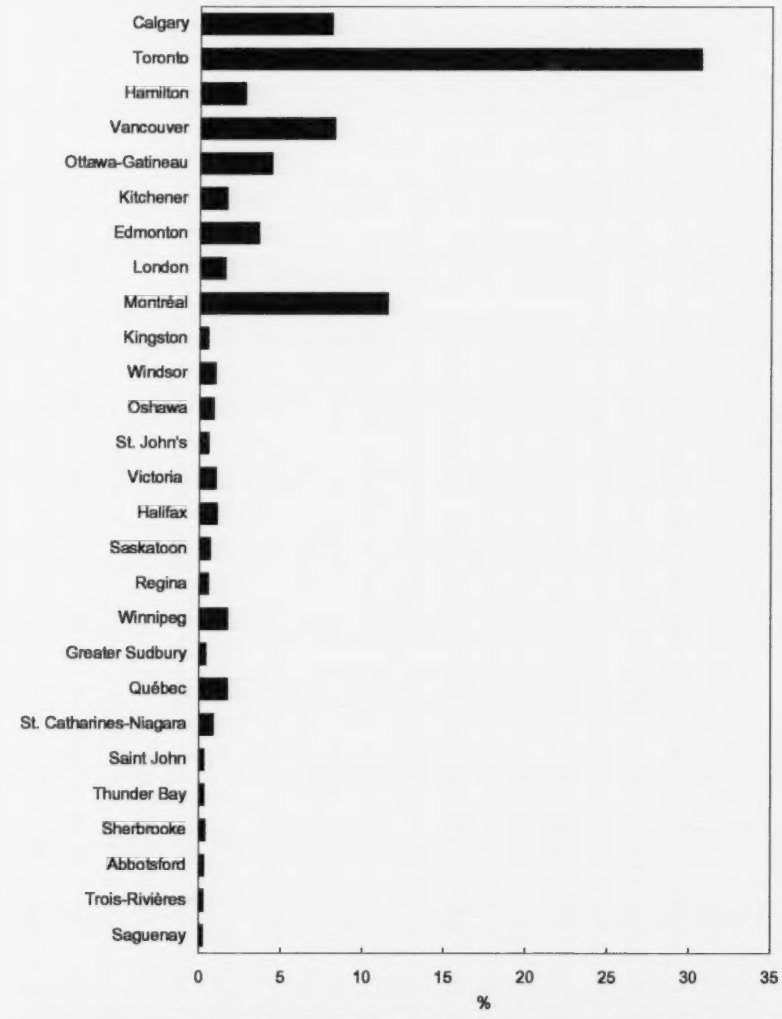
Concentration of income and wealth

While the distribution of annual income is highly concentrated, wealth-holding is even more so (Davies 1991).

Concentration of income and wealth (more precisely, net worth) can be examined several ways. One is to look at either income or wealth on its own. Another is to look at the joint distribution. In 1999, the 5% of families with the highest net worth held 35% of all net worth but received only 12% of income. The 5% of families with the highest incomes received 18% of total income and held 19% of net worth. Therefore, the concentration of wealth in the top 20th of the wealth distribution was almost twice the concentration of income in the top 20th of the income distribution.

The top 1% of families show similar but somewhat more pronounced patterns, with a share of wealth 2.4 times that of income. In fact, some of the very highest

Chart D Toronto is home for almost one-third of families with income over $250,000



Note: Census metropolitan areas ordered by incidence of high-income families; income excludes capital gains.
Source: Statistics Canada, T1 Family File, 2004

income families had lower net worth than many families further down in the income distribution. At first glance, it may seem odd that the share of wealth of high-income families so closely follows their share of income. However, wealth accumulation takes time and as such, life-cycle effects and age must be taken into consideration.

Not surprisingly, the elderly had a higher median net worth at all levels of income. Their overall median was $214,000, 2.5 times larger than the $84,000 for the non-elderly. Even among lower-income elderly, median net worth was higher than for younger families, who had not had the time to accumulate assets. The gap decreases as the high income of younger families starts to provide wealth accumulation, narrowing the gap to about 2:1 in the top few vingtiles. The elderly shares peak in the lower half of the distribution and then drop steadily through the upper half because incomes of the elderly decline as people retire from the labour market.

The very high-income elderly (top 1%) derive a smaller proportion of their net worth from principal residence and the actuarial value of pensions than do their younger counterparts. The very high-income elderly also have a significantly larger share of net worth in financial assets—68% compared with 35% for elderly families in the top 5% of income recipients.

The question of taxes

The ratio of taxes to total income rises with income. In 2004, the bottom 95% of the taxfiler population received 75% of income and paid 64% of taxes, while the top 5% received 25% of income and paid 36% of taxes.[11]

Tax rates are an important indicator of the fairness of a tax system. The pattern of tax rates in relation to income is an indicator of vertical equity of the system, where a basic principle is taxation according to ability to pay. This is generally interpreted to mean that those with higher incomes should face higher rates. However, fairness also

means that people in similar circumstances should be taxed in a similar way (horizontal equity). The tax system is also asked to meet other, often competing goals, such as simplicity, efficiency, revenue generation, and the granting of various concessions and incentives referred to as tax expenditures. The political process determines the appropriate balance.

A number of different tax rates can be examined. Nominal (statutory) tax rates are provided in legislation and are higher for higher incomes. The marginal tax rate applies to the last dollar of income. These rates are sensitive to the kind of income and the unit of analysis—individual or family. The effective tax rate (ETR) is simply the ratio of taxes paid to total income.

The more common approach to calculating the ETR is to divide the taxes paid by all filers in a group by their corresponding income. This method shows that 20.2% of all income goes for taxes. The second method is to calculate each filer's ETR and then average these individual rates. This results in lower effective tax rates, 12.2% overall.[12] In the first case, the effective tax rate is weighted by income, giving more significance to the tax rates paid by high-income Canadians. In the second case, each individual's rate has the same importance. This can be seen by the convergence of the two rates as income increases and group size declines (Chart E). The latter method is used in the rest of this analysis. Either way, however, shows a generally progressive structure of effective tax rates in Canada. From 11.4%, the rate climbs to 27.1%, 30.5%, 32.3%, before dipping marginally to 31.7% for the highest income group.

The ETRs may still seem low, averaging well under 20% overall and about 28% for the top 5%, especially when compared with the top statutory tax rate of 46% in Ontario in 1995. It is important, however, to keep in mind the difference between average and statutory marginal tax rates. ETRs are always lower because the income in the denominator has been taxed at a mixture of statutory rates, including an initial bracket, determined largely by personal tax credits, where the rate is essentially zero.

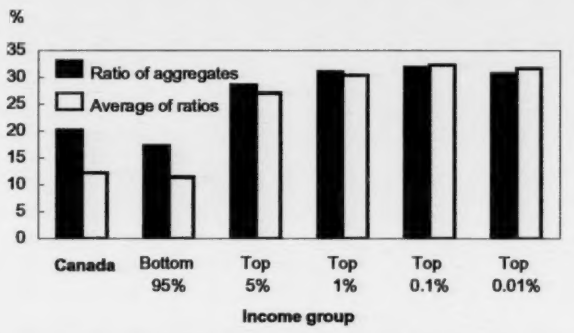
The distinction between marginal and average rates can be illustrated using the Social Policy Simulation Database and Model (Bordt et al. 1990). The tax and transfer system rules, rates and levels from each of the years 1984 to 2004 were applied to fixed populations of individual taxfilers and the results split into two income groups: the bottom 95% and the top 5%.[13]

For the bottom 95%, ETRs generally increased through the 1980s, remained roughly constant at just over 15% throughout the 1990s, and declined at the turn of the millennium, remaining steady through 2004. More fluctuation was evident in the high-income population because of high-income surtaxes and numerous changes to top federal tax brackets. They had a more pronounced rise in the mid-to-late 1980s, declining more sharply in 1988 with the introduction of tax reform, which reduced 10 brackets to 3 and converted many deductions to tax credits.

Marginal tax rates, in contrast, were estimated by simulating the incremental tax liability each individual would have incurred if their earnings had been increased by a small amount. The resulting marginal tax rates were then averaged across all filers within each income group. They are consistently at least 15 percentage points higher than the ETRs for the bottom 95%.[14] For high-income Canadians, the gap is naturally smaller at about 5% to 10%, as a greater proportion of income is subject to the top marginal rate. This gap has been shrinking as a result of the major tax reforms of 1998 and 2000/2001.

While the progressive structure of statutory income tax rates causes simulated marginal tax rates to rise with income, tax rates also vary significantly within a given income range. The group with the largest range is the top 0.01% where 90% of filers experience an ETR of between 9% and 46%. The filers in the 19th vingtile have the smallest spread, from 14% to 32%. This nar-

Chart E Effective individual income tax rates vary by method of calculation



Source: Statistics Canada, T1 Family File, 2004

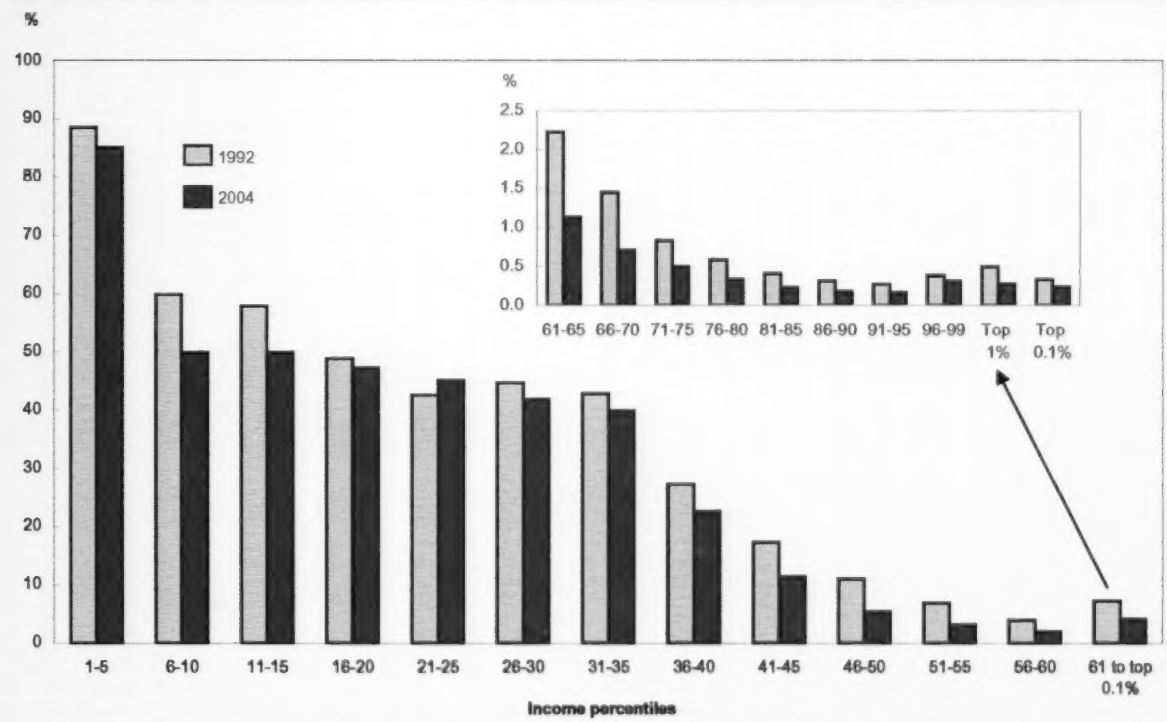
rower range of ETRs indicates a more homogeneous use of deductions and credits than any other income group among the top 60% of filers. Fully 5% of individuals with incomes in excess of $3.5 million paid effective tax rates of less than 10% after deductions and credits.

Over 85% of the 5% of Canadians with the lowest incomes in 2004 paid no income or payroll taxes (Chart F). While some individuals may have no income taxes payable, Employment Insurance and Canada or Quebec Pension Plan contributions may still be payable. The proportion paying no taxes drops sharply after the first vingtile but remains over 40% until the 35th percentile. It then drops quickly to below 1% approximately two-thirds of the way up the income distribution.

In the upper tail of the income distribution, a small increase in the proportion of filers paying no tax can be seen beginning with the top 5%. The proportion of filers paying no tax remains below 0.5%, and in the very highest income group, about 100 filers paid no tax. Tax deductions such as business losses and gifts to the Crown are responsible for a number of these situations. The proportion of filers reporting zero taxes declined at almost all income levels between 1992 and 2004.

While a very few high-income Canadians reduce their taxes to zero, far more have relatively high ETRs (Chart G). In 2004, 3% of individual taxfilers experienced ETRs in excess of 30%. Only 1% of non-high-income filers had ETRs greater than 30%, compared with 37% of those with high income. For the higher-income groups, this proportion rises to between 58%

Chart F The proportion of taxfilers paying zero taxes declined at almost all income levels



Source: Statistics Canada, T1 Family File

and 65%. While the overall proportion of high-income Canadians (the top 5%) with ETRs over 40% is 3%, almost one-third of those in the top 0.01% have ETRs over 40%. These filers expose enough income to the top marginal rate to essentially bring their average rate close to the marginal rate.

ETRs are determined by the interplay of the distribution of income by source and the structure of the tax and transfer system. Both of these changed between 1992 and 2004. The income share of the top 5% increased from 20% to 24% while tax rates fell, especially with the reforms of 2000/2001.[15] The 2004 ETRs are slightly lower than 1992 for all the income groups shown. However, for the top 0.01% of individuals, the mean tax rate dropped by a quarter, from 42% to 31% (Chart H).

For the top 0.01%, the mean ETR in 2004 was 74% of the 1992 ETR. Overall, high-income Canadians increased their income share by 21% from 1992 to 2004. Meanwhile the tax rate dropped from 31% to 29% (a 6% reduction), while the share of total taxes paid by high-income Canadians went from 31% to 36% (an 18% increase). The differences were larger for the highest income group with a 26% drop in the tax rate and a 57% increase in the share of taxes paid.

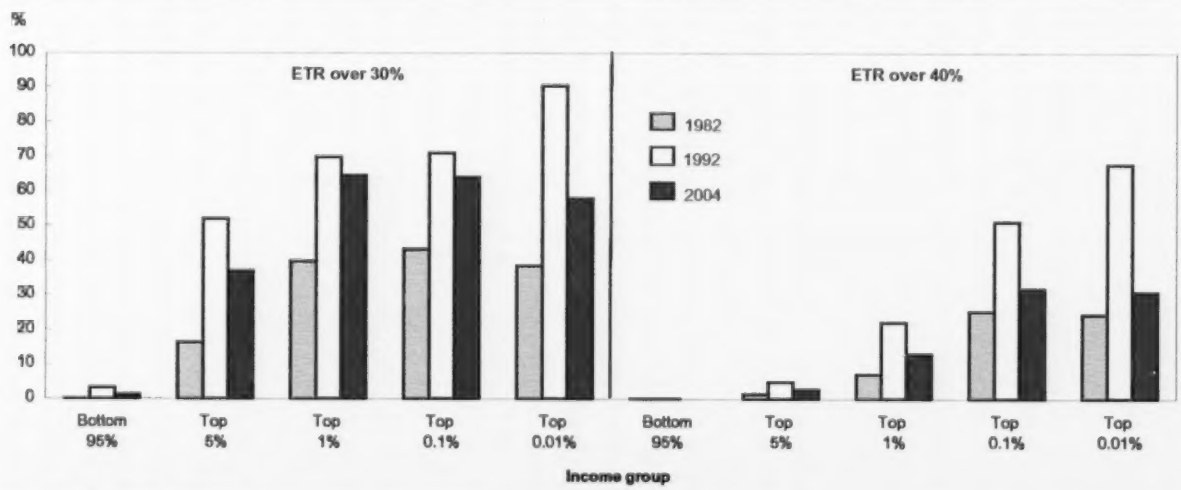
Conclusion

Some 5% of individual taxfilers had incomes of $89,000 or more in 2004. Regardless of the threshold used, incomes in the upper tail of the distribution as well as the share of total income increased substantially from 1992 to 2004. In contrast, individuals in the bottom 50% to 80% generally saw little improvement in constant dollar income.

Compared with the U.S., Canada had significantly fewer high-income recipients in 2004, and their incomes were considerably less. High-income Canadians increasingly receive more of their income from employment than from other sources.[16] Investment income has been a decreasing proportion, even among those with the highest incomes.

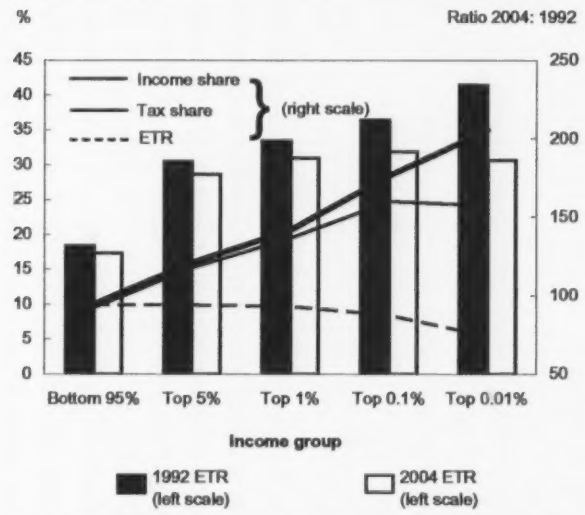
In line with their increasing share of total income, high-income Canadians have been paying an increasing share of total personal income taxes. As well, effective income tax rates are clearly higher in the higher-income groups, reflecting the progressive nature of the income tax system. But there is considerable heterogeneity in effective tax rates at the individual level. Effective rates vary widely across the income distribution as well as among individuals within the highest income group. Many in the top 0.01% of the distribution face an

Chart G High-income taxfilers more likely to face higher effective tax rates



Source: Statistics Canada, T1 Family File

Chart H For the top 0.01% of taxfilers, the mean ETR dropped by a quarter



Source: Statistics Canada, T1 Family File

effective tax rate of over 45%, while some pay as little as 10%. Interestingly, the proportion of taxfilers who pay zero taxes decreased between 1992 and 2004.

Perspectives

Notes

1 Whatever statistics for families are presented they include families of size one (usually referred to as unattached individuals or persons not in families). The incomes of families have not been adjusted with any equivalence scale.

2 Each year the CRA publishes tax statistics for taxfilers, including level of income, sources of income, and taxes paid. The $250,000 income level is not selected to conform to any particular governmental policy or regulation, but rather is chosen simply to represent a convenient measure of the highest level of income while protecting the confidentiality of individuals.

3 In contrast to the other nominal thresholds, this one is currently indexed to the CPI and refers to taxable income. In this it is more akin to an absolute low-income threshold, since virtually no low-income cut points fail to adjust at least for inflation.

4 These cut points are typically expressed in terms of percentiles, deciles, quintiles, quartiles, etc. An alternative relative threshold would be a level expressed as a multiple of a quantile, such as 10 times the median for a high-income threshold, similar to the more common half median used as a cut point for demarcating low income.

5 The T1 Family File provides information on individual taxfilers and families. For this study, each of these two groups is ordered from lowest to highest total income, and then divided into 10,000 equally sized quantiles, with corresponding dollar income thresholds for each. The total income associated with the change from one quantile to the next provides the dollar figure used to determine the value of any particular threshold. Except where noted, T1FF income figures include total capital gains and RRSP withdrawals.

6 There is an important caveat to this analysis of taxes paid. An unknown number of high-income individuals and families receive business income through a corporation, and may hold investments in corporations, trusts, or charitable foundations. These are used in sophisticated tax planning and are not considered in this analysis because of data limitations.

7 The U.S. data come from Piketty and Saez (2003), updated tables and figures.

8 This analysis of income sources following Saez and Veall (2003, 37) does not include other sources such as alimony, taxable social security benefits, or taxable Employment Insurance benefits. These are less important for high-income individuals. The total income variable in this paper does include them.

9 The change in aggregate income is represented by the ratio of 2004 income to 1992 income.

10 The SFS main sample consisted of approximately 21,000 dwellings. This area sample was a stratified, multi-stage sample selected from the Labour Force Survey sampling frame. The second portion of the sample, approximately 2,000 households, was drawn from geographic areas in which a large proportion of households had what was defined as high income. This sample was included to improve the quality of the estimates of net worth, as higher-income families tend to hold a disproportionate share of net worth. For purposes of this sample, the income cut-off was total family income of at least $200,000 or investment income of at least $50,000. The latter was used to take into account families that may not have high income from employment but who do have substantial assets that generate investment income.

11 The shares are calculated as the ratio of total income or taxes for each income group to total income or taxes for all Canadians. Total tax, federal plus provincial, includes repayment of social benefits and payroll taxes. Total income is reported on tax forms using *total* capital gains and dividend income plus the Child Tax

Credit and Sales Tax Credit. The Canada Revenue Agency publishes information on taxable capital gains and taxable dividend income. These have been adjusted to represent total income from these sources—that is, dividends are divided by 5/4 and capital gains by 3/4.

12 Some taxfilers report a negative income and some report taxes that exceed income. To control for the impact of such outliers and to preserve sample, tax rates were bounded between 0% and 100%.

13 The methodology employed shows the impact on tax rates of the changes to the tax system independent of business cycles and demographic change. The simulated average effective tax rates were roughly the same as those calculated using the T1FF data.

14 They are slightly lower than maximum combined federal plus provincial statutory rates in the tax system because they have been averaged across filers with different levels of income and deductions.

15 The level at which the highest federal tax rate starts to be paid increased to $100,000 from $60,000, and the lowest rate dropped from 17% to 16%. Provincial governments moved to their own rate schedules.

16 This agrees with the findings of Saez and Veall (2003).

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